

Notice of Allowability

Application No.

10/748,447

Examiner

Dang T Nguyen

Applicant(s)

SCHILLACI ET AL.

Art Unit

2824



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 30 December 2003.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 30 December 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 8/3/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 11/3 and 16/04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Search history.



RICHARD ELMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

1. This action is responsive to the following communications: the Application filed on December 30, 2003 and the Information Disclosure Statement filed August 03, 2004.
2. Claims 1 – 24 are pending in this case. Claims 1, 8, 13, 21, and 24 are independent claims.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 20, drawn to an architecture of a non-volatile memory, SPI (Serial Communication Interface), and buffer memory bank, classified in class 365, subclass 185.33.
 - II. Claim 21 - 24, drawn to a latch and cross-coupled inverters, classified in class 365, subclass 189.05.

The inventions are distinct, each from the other because of the following reasons:

Inventions I through II are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination as claims 1 – 20 of an architecture memory device comprises a

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subcombination as claims 21 – 24 of a latch. The subcombination has separate utility such as cross-coupled inverters and switches.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Iannucci Robert on Nov. 3, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1- 20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 21 – 24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Iannucci Robert on November 16, 2004.

The application has been amended as follows:

Claim 1, line 9 changes "battery" To - -plurality- -

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Claim 4, line 1 changes "claim 4" To - -claim 1- -

Claim 13, line 6 changes "inputand" To - -input and- -

Claim 13, line 8 changes "battery" To - -plurality- -

Cancel non-elected claims 21 – 24.

Allowable Subject Matter

6. Claims 1 – 20 are allowed.

7. The following is an examiner's statement of reasons for allowance:

With respect to claim 1, in addition to other elements in the respective claim, the prior art does not teach or suggest "a buffer memory bank for storing and outputting data during page programming in a pseudo-serial mode, wherein said buffer memory bank comprises a plurality of latches storing data to be programmed and memory blocks allowing data to be latched one bit at a time and output at least two bytes at a time".

With respect to claim 8, in addition to other elements in the respective claim, the prior art does not teach or suggest "latching data in a buffer memory bank one bit at a time during the page programming through said interface; and outputting from the buffer memory bank at least a byte of data at a time during the page programming".

With respect to claim 13, in addition to other elements in the respective claim, the prior art does not teach or suggest "a buffer memory bank connected between the data input and the memory cell matrix and structured to buffer the data between the data input and the memory cell matrix during a page programming mode, wherein the

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buffer memory bank comprises a plurality of latches that respectively latch the data one bit at a time and output at least a byte at a time”.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Machado et al. (Pub. No.: US 2004/0153902 A1) discloses that in one alternative, just after the present byte in the shift register is written to the page memory and before the next byte is received into the shift register, the present byte is shifted out one bit at a time to the syndrome generator through a demultiplexer.

Park et al. (Patent No.: US 6,775,184 B1) discloses a memory integrated circuit includes a nonvolatile memory array that is programmed in page mode.

Rockett, Jr. (Patent No.: 4,638,463) discloses a circuit schematic diagram showing the fast writing circuit for a soft error protected storage cell.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Contact Information

9. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

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Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC@uspto.gov.

Dang Nguyen 11/17/2004

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